

REMARKS

This reply is in response to the Office Action mailed December 29, 2006, which allowed claims 12, 13, 15, 17, 18, 20, 23, 24, 26, 29, 30 and 35, and rejected claims 2-11, 14, 16, 19, 21, 22, 25, 27, 28, 31-34, and 36-42.

At the outset, Applicants would like to thank the Examiner for the indication of allowable subject matter. The amendments above and remarks that follow address all of the points raised in the Office Action and Applicants submit that all pending claims are in condition for allowance.

Amendments to the Claims

Applicants have amended claims 2, 3, 4, 7, 8, 11, 16, 19, 21, 22, 25, 27, 28, and 31, and have added new claims 43-46. Support for the new claims can be found, among other places, at page 8, lines 10-20 of the specification-as-filed. No new subject matter is added.

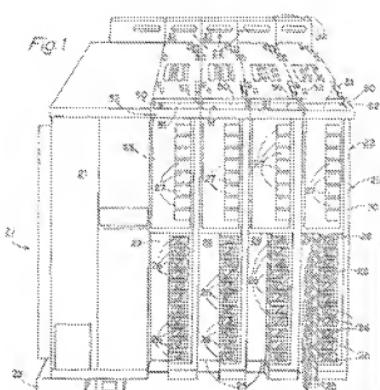
Claim Rejections Under 35 U.S.C. § 103

Claims 2, 3, 5-7, 9-11, 14, 16, 21, 22, 27, 28, and 33-34 stand rejected under 35 U.S.C. § 103 as being unpatentable over U.S. Patent No. 4,558,914 to Prager et al ("Prager") in view of U.S. Patent No. 5,390,351 to Di Giulio et al. ("Di Giulio").

The Prager Reference

Prager purports to teach an expandable programmable controller. The programmable controller 20 has a central processing unit 21 with a plurality of input/output modules 22 connected thereto. The input/output modules 22 each have screw terminals that form wire

connection points 26, e.g., for connection to other equipment. (Prager, col. 3, lines 46-47 and col. 4, lines 39-54).



The Di Giulio Reference

Di Giulio purports to teach a communications architecture for a motion control system. The system is configured with abstract nodes called centralized control nodes (CCNs), distributed control nodes (DCNs), and peripheral control nodes (PCNs), all of which can be connected by a bus, as shown in Figure 6, below. Communication between the nodes take place over the bus according to a protocol involving scheduled messaging. (Col. 1, lines 42-45.)

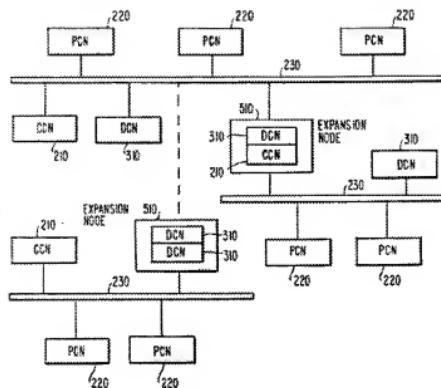


FIG. 6

Amended Claim 2 and New Claim 43 Are Patentable Over Prager and Di Giulio

As amended, independent claim 2 is directed to a control system comprising a plurality of field devices, at least one of which provides a second control function within the control system that includes controlling one or more devices. The system further comprises a computing device that provides a first control function within the control system, where the first control function includes controlling at least the selected field device. The computing device includes a control subsystem that comprises a bus and plurality of modules that are coupled to the bus and that each comprise a housing. At least a first module of the control subsystem comprises a controller. At least a second module includes interface logic adapted for communication with one or more of the field devices. At least a third module includes interface logic adapted for communication with the field device that provides the second control function.

The Office Action contends that Prager discloses a computing device 21 (see Fig. 1, above) with a plurality of modules 22, a first module comprising a controller, a second module interfacing with a field device, and a third module interfacing to a field device that provides a second control function. The Office Action appears to point to element 22 of Fig. 1 for both the field device and module 22, but Applicants take this to mean that the Office Action contends that element 22 is a module and that the “external devices” discussed in col. 4, lines 3-28 are field devices, and not that element 22 is both a module and a field device. As to the field device, the Office Action admits that Prager does not disclose a field device providing a second control function that includes controlling one or more devices, and instead contends that Di Giulio discloses such a field device 310.

Prager and/or Di Giulio do not disclose all of the elements of amended claim 2. For example, they do no teach or suggest a second module that has interface logic adapted for communication with a field device, and a third module that has interface logic adapted for communication with a field device.

More particularly, and by way of example, Prager merely discloses a plurality of screw terminals for attaching wires to other equipment. Di Giulio discloses a plurality of nodes connected to a common bus (e.g., RS-485 serial bus, see col. 7, line 62). Neither of these constitutes the claimed invention.

Moreover, to the extent that the combination of Prager and Di Giulio results in anything, it merely results in a programmable controller with a plurality of screw terminals wired together into a common bus on which a plurality of nodes communicate. To the extent the Office Action

concludes otherwise, it impermissibly relies on hindsight, picking and choosing amongst pieces from the prior art using the claim as its guide.

In sum, Prager and Di Giulio do not disclose, individually or in combination, the subject matter of claim 2.

New claim 43, which depends from claim 2, further distinguishes over Prager and Di Giulio. Claim 43 recites that the interface logic included in the second module converts signals transmitted to and/or received from the field device to which it interfaces in a manner that differs from that of the interface logic included in the third module with respect to the field device to which it interfaces. In contrast, Prager discloses identical screw terminals, and Di Giulio a common bus with identical interfaces. Claim 43 is patentable over Prager and Di Giulio for at least these reasons, in addition to those already stated above for claim 2.

Amended Claims 3, 4, 7, 8, 11, 16, 19, 21, 25, 27 and 31

The arguments presented above for claim 2 apply with equal force to establish that independent claims 3, 4, 7, 8, 11, 16, 19, 21, 25, 27, and 31 are patentable over Prager and Di Giulio. For at least this reason, these claims are allowable.

Dependent Claims 5, 6, 9, 10, 14, 22, 28, 32-34, and 36-42

Dependent claims 5, 6, 9, 10, 14, 22, 28, 32-34, and 36-42 each depend from one of the previously discussed independent claims, and are allowable for at least that reasons stated above with respect to those independent claims.

New Claims 44-46

The arguments presented above for claim 43 apply with equal force to establish that new dependent claims 44-46 distinguish over Prager and Di Giulio. For at least this reason, and because each of these claims depend from an allowable independent claim, these claims are allowable.

Conclusion

In light of the foregoing, Applicants believe that the application is in condition for allowance. The Examiner is encouraged to telephone the undersigned attorney for Applicants if such communication will expedite prosecution of this application.

The Director is hereby authorized to charge any fees which may be required, or credit any overpayment, to Deposit Account Number 141449.

Respectfully submitted,

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/Joshua T. Matt/

Joshua T. Matt (Reg. No. 55,435)
Attorney for Applicants

Nutter McCennen & Fish LLP
155 Seaport Boulevard
Boston, MA 02210-2604

Tel: (617) 439-2651
Fax: (617) 310-9651